WORK INSTRUCTION

Title: **Minor Repair of ICV/OCV Seal Area Surface Finish and Vessel Wall**

Instruction No. CH.12 Rev. 0.1, April 2004

Approved for Use by: Michael R. Brown Effective Date: 04/22/04

Applicable Drawings:
- 2077-500SNP (Sheets 1, 3, 4, 6, & 7) - TRUPACT-II Packaging SARP Drawings
- 707-SAR (Sheets 1, 4, 5, & 6) - HalfPACT Packaging SARP Drawings

SARP Requirements:
- Chapter 8.0. As required.

Tools Required:
- Lifting equipment
- Mass spectrometer leak detector
- Lid stands
- ICV/OCV vent port pressure relief tools
- ICV/OCV leak check tools
- Calibrated ultrasonic thickness (UT) gauge

Spare Parts Required:
- None

Materials Required:
- 400 to 600 grit emery cloth (new and clean)
- Denatured alcohol or equivalent
- Lint-free rags

Safety Requirements:
- Safety will be observed in accordance with site requirements.

Prerequisite Conditions:
- ICV/OCV lid(s) must be removed for access to inner or seal surfaces.

Instruction Steps:
- This instruction **is not required to be attached** to the Maintenance Record but may be used as a checklist during performance of maintenance.
- Polishing should begin with 400 grit emery cloth and finish with 600 grit.

☐ ICV O-ring sealing surface (bottom of O-ring groove)
☐ OCV O-ring sealing surface (bottom of O-ring groove)
☐ ICV upper seal flange sealing surface
☐ OCV upper seal flange sealing surface

1.0 Using alcohol and lint-free rags, thoroughly clean area to be repaired.

NOTE: Sealing surface finish shall be 125 micro inches or better.

2.0 Using emery cloth or machinist polishing tool, polish affected area until smooth. (Polish strokes should be limited to strokes that are parallel to machine marks.)
3.0 Clean repaired area to remove any residue.
4.0 Perform maintenance leakage rate test.

☐ ICV seal test port sealing surface
☐ OCV seal test port sealing surface
☐ ICV vent port sealing surface
☐ OCV vent port sealing surface

1.0 Using alcohol and lint-free rags, thoroughly clean area to be repaired.

NOTE: Sealing surface finish shall be 125 micro inches or better.

2.0 Using emery cloth or machinist polishing tool, polish affected area until smooth. (Polish strokes should be limited to strokes that are parallel to machine marks.)
3.0 Clean repaired area to remove any residue.
4.0 Verify sealing surface integrity by performing one of the following substeps:
- 4.1 On the OCV and ICV vent ports (as required), perform a seal surface leak check as follows:
  - Configure the ICV/OCV as required to perform this check.
  - Block off the back side of the penetration in the vent port (ICV or OCV).
  - Install the vent port leak test tool and connect to a leak detector.
  - Pull a vacuum on the vent port (must be in the test range).
  - Spray helium around the tool/vent port interface and check for leaks.
  - If the test fails, the preceding polishing and testing steps may be repeated as needed.
- 4.2 On the OCV and ICV seal test ports (as required), perform a seal surface leak check as follows:
  - Configure the ICV/OCV as required to perform this check.
  - Install the leak test tool and connect to a leak detector.
  - Pull a vacuum on the seal test port (must be in the test range).
  - Spray helium around the tool/test port interface and check for leaks.
  - If the test fails, the preceding polishing and testing steps may be repeated as needed.

☐ ICV exposed surfaces
☐ OCV exposed surfaces

1.0 Using Attachment 1, record UT measurements prior to polishing surfaces.
2.0 Number the location(s) on Attachment 1, Data Sheet.
3.0 List the location number(s) on Attachment 1, Data Sheet.

NOTE: While performing Step 4, take periodic UT measurements to ensure wall thickness is maintained equal to or greater than the minimum thickness specified in the applicable flag note on the SARP drawings.

NOTE: If the indication(s) cannot be removed while maintaining the minimum wall thickness, STOP polishing and notify CH Packaging Maintenance Engineer for guidance.

4.0 Using emery cloth, polish affected area until smooth.
5.0 Clean repaired area to remove residue.
6.0 Record final UT measurements on Attachment 1, Data Sheet.

Verification Requirements:

1.0 Work performed is described on Maintenance Record.
2.0 Work instruction is listed on Maintenance Record.
3.0 If used, data sheet (Work Instruction CH.12, Attachment 1) is attached to Maintenance Record.
4.0 Helium leak test documentation is attached to Maintenance Record.

Attachment 1 Data Sheet

Packaging S/N _____ Check One ☐ ICV ☐ OCV
Ultrasonic Thickness Gauge SN: _____/Calibration Due Date: _____

Indication Number	Ultrasonic Thickness Before	Ultrasonic Thickness After
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
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QA: _____ Date: _____

Attachment 1 Data Sheet